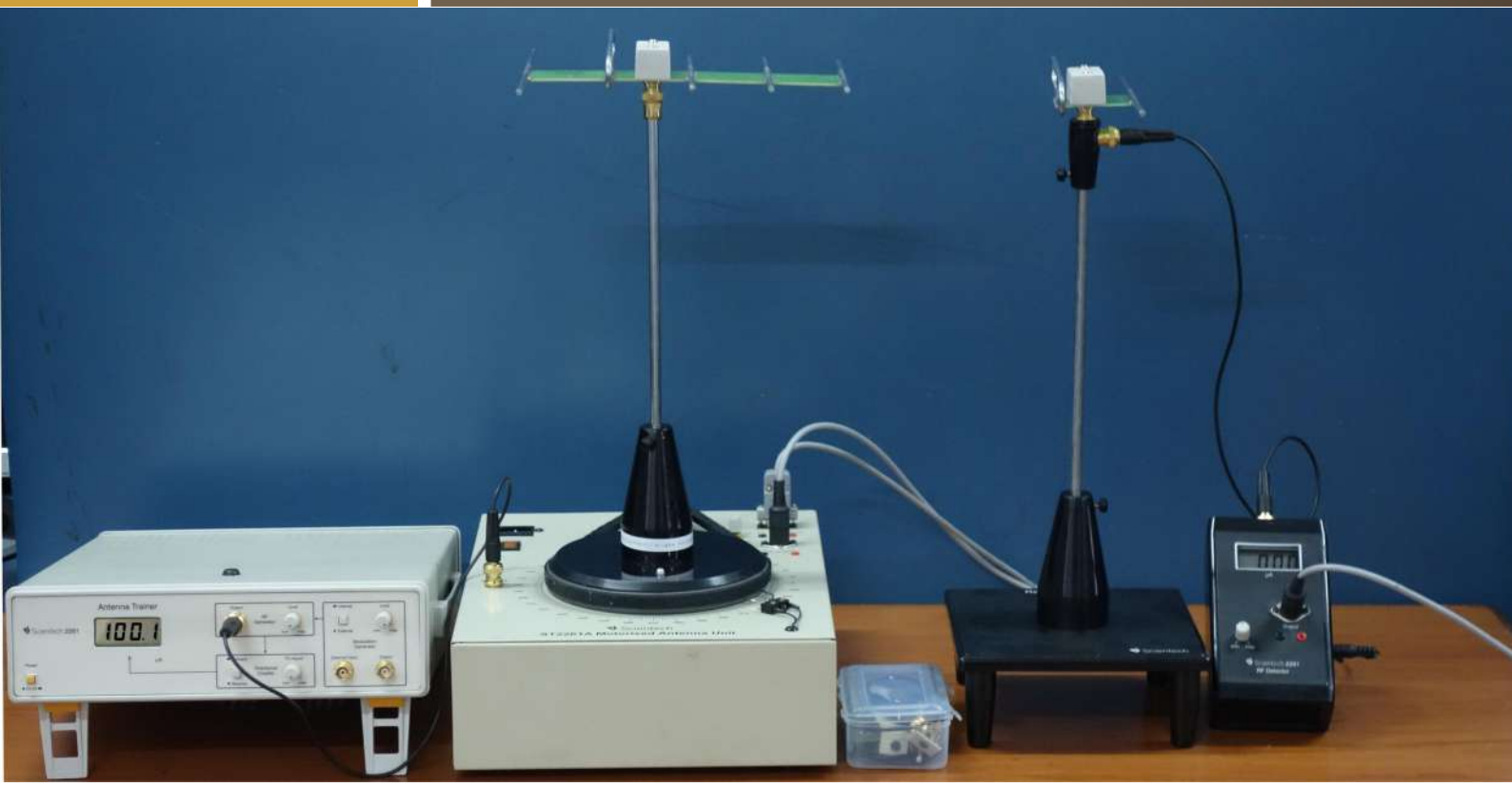
Scientech

Antenna Training System

Scientech 2261A



The desktop Antenna Training System Scientech 2261A has been specially designed for Technical universities and Skill development centers. It is very useful for introducing practical verification of antenna operation to the students. It is designed so that students can take readings and plot polar graphs themselves. The learning content provides theoretical concepts and detailed procedure of experiments with each type of antenna.

The training system includes various antennas, a transmitter unit and a detector unit along with other accessories packed in a convenient carrying case. All the antennas are made by high conducting rods with chrome finish for long durability and mounted on the glass epoxy PCB for easy mounting and dismounting.

The Antenna Training System also comes with Motorized Antenna Unit to automate the recording of the radiation pattern of the antennas. The Motorized Antenna Unit is Microcontroller based PC interface system for capturing, displaying and printing of Antenna radiation pattern. A Windows based software plots the radiation pattern which displayed on PC screen. The PC communication is via Serial port

Features

- Self contained simple and student friendly platform
- Hands on set-up for measuring and plotting radiation
  Patterns of 22 different types of Antennas
- Built in RF & Modulation Generators
- Antenna Characteristics and SWR Measurement
- On board RF & Tone generators
- Antenna matching stub
- Transmitting and receiving levels observed on built- in meters
- Polar graphs (2 types)
- “Antenna kit” for fabricating special antenna
- Microconroller based high precision DC stepper motor
- Automatic home position setting
- Instant & real time plotting of radiation pattern
- Antenna rotation resolution 1°
- PC Interface - RS232 (Serial port)
- Radiation pattern plotting software (Windows compatible)
- Compact design
- Lightweight

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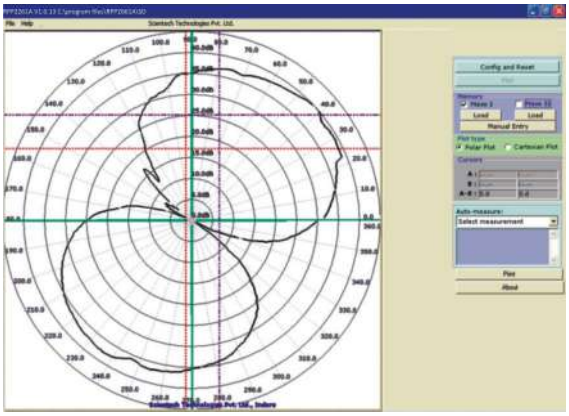
Scope of Learning

- Polar plots & polarization study of 22 types of Antennas
- Wave modulation & demodulation
- Antenna gain & Antenna beam width
- Element current & Front to back ratio
- Study of matching stub
- SWR measurement
- Antenna radiation with distance
- Plotting the Polar graph/ radiation pattern of an Antenna using software

Radiation Pattern for Yagi Antenna



Technical Specifications

Waveforms	:	Sine
RF Generator	:	750 MHz approximately (output adjustable)
Modulation Generator	:	1 KHz approximately (output adjustable)
Directional Coupler	:	Forward & Reverse (selectable)
Matching Stub	:	Slider type
Antenna Rotation	:	0-360^{0}. (Resolution - 1^{0})
Receiving Antenna	:	Folded dipole with reflector
Detector Display	:	Level adjustable meter
Detector	:	Active with 5 pin DIN connector
Interconnection	:	BNC
Power Supply	:	110/220V, ±10% 50/60 Hz
Operating Conditions	:	0-40°C, 80% RH
Power Consumption	:	RF Generator unit - 3 VA
	:	Motorized Antenna unit - 2 VA
Weight	:	RF Generator unit - 3 kg
	:	Motorized Antenna unit - 3 kg
Dimensions (mm)	:	RF Generator unit - W 285 x D 385 x H 75
	:	Motorized Antenna unit - W 285 × D 390 × H 88

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List of Accessories (Full Unit) :

Antennas	:	**22 nos.**
1. Simple Dipole λ/2	:	1 no.
2. Simple Dipole λ/4	:	1 no.
3. Simple Dipole 3 λ/2	:	1 no.
4. Folded Dipole λ/2	:	1 no.
5. Yagi-UDA Folded Dipole (3E)	:	1 no.
6. Yagi-UDA Folded Dipole (5E)	:	1 no.
7. Yagi-UDA Simple Dipole (5E)	:	1 no.
8. Yagi-UDA Simple Dipole (7E)	:	1 no.
9. Hertz Antenna	:	1 no.
10. Zeppelin Antenna	:	1 no.
11. λ/2 Phase Array	:	1 no.
12. λ/4 Phase Array	:	1 no.
13. Combined Co-linear Array	:	1 no.
14. Broad-Side Array	:	1 no.
15. Log Periodic Antenna	:	1 no.
16. Cut Paraboloid Antenna	:	1 no.
17. Loop Antenna	:	1 no.
18. Rhombus Antenna	:	1 no.
19. Ground Plane Antenna	:	1 no.
20. Slot Antenna λ/2	:	1 no.
21. Helix Antenna	:	1 no.
22. Detector Antenna	:	1 no.
Rods for Ground Plane Antenna		
1. 6.9cm	:	1 no.
2. 8.5cm	:	1 no.
3. 20.5cm	:	1 no.
Current Probe	:	**1 no.**
Transmitting Mast	:	**1 no.**
RF Detector	:	**1 no.**
Receiving Mast	:	**1 no.**

Accessories Kit:

1. BNC –Tee	: 1 no.
2. BNC - BNC Adapter (M)	: 1 no.
3. BNC - BNC Adapter (F)	: 1 no.
4. BNC (M) - BNC (F) Adapter (L-type)	: 1 no
5. BNC – BNC Cable 25”	: 2 nos.
6. BNC – BNC Cable 18”	: 1 no.
7. Aligner 932	: 1 no.
Polar Graphs (dBμA)	**: 25 nos.**
Polar Graphs(for normalised reading)	**:25 nos.**
Antenna Fabrication Kit	
1. Two PCB’s	: 1 no.
2. 14 SWG wire roll 20”	: 1 no.
Mains Cord	**: 2 nos.**
Carrying case	**: 1 no.**
+5V DC Adaptor(500mA)	**: 1 no.**
5 Pin DIN cable	: 1 no
Patch Cords	: 1 no
BNC-BNC Cable	: 1 no
RS232 Cable	: 1 no
Radiation Pattern Plotting Software	: 1 no

Subject to Change

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